

Appendix B

Suggested Reading

B.1 General References

Engineering and Technology for Stellar Interferometry

P.R. Lawson, *Selected Papers on Long Baseline Stellar Interferometry*, MS 139 (SPIE Press: Bellingham, WA, 1997).

J. Davis, “Observing with optical/infrared long baseline interferometers,” in *High Angular Resolution in Astrophysics*, A.-M. Lagrange, D. Mourard and P. Léna, eds. (Kluwer Academic: Dordrecht, 1997), pp. 49–79.

M. Shao and M.M. Colavita, “Long-baseline optical and infrared stellar interferometry,” *Ann. Rev. Astron. Astrop.* **30**, 457–498 (1992).

V. Coudé du Foresto, “Integrated optics in astronomical interferometry,” in *Very High Angular Resolution Imaging*, J.G. Robertson and W.J. Tango, eds., IAU Symp. **158** (Kluwer Academic: Dordrecht, Netherlands, 1994), pp. 261–271.

Recent Conferences and Workshops on Stellar Interferometry

Interferometry in Optical Astronomy, P.J. Léna and A. Quirrenbach, eds., Proc. SPIE **4006** (SPIE Press: Bellingham, WA, 2000). Munich, Germany, 27–29 March 2000.

Working on the Fringe: Optical and IR Interferometry from the Ground and Space, S. Unwin and R. Stachnik, eds., ASP Conf. Ser. **194** (Brigham Young University Press: Provo, UT, 1999). Dana Point, California, USA, 24–28 May 1999.

Catching the Perfect Wave: Adaptive Optics and Interferometry for the 21st Century, S. Restaino, W. Junor, and N. Duric, eds., ASP Conf. Ser. **174** (Brigham Young Univ. Press: Provo Utah, 1999). Albuquerque, New Mexico, USA, 28 June – 1 July 1998.

Astronomical Interferometry, R.D. Reasenberg, ed., Proc. SPIE **3350** (SPIE Press: Bellingham, WA, 1998). Kona, Hawaii, USA, 20–24 March 1998.

Astrophysics with Stellar Interferometers

Fundamental Stellar Properties: The Interaction Between Observation and Theory, T.R. Bedding, A.J. Booth, and J. Davis, eds., IAU Symposium No. 198 (Kluwer Academic : Dordrecht, 1997).

Complementary Approaches to Double and Multiple Star Research, H.A. McAlister and W.I. Hartkopf, eds. IAU Colloquium 135, ASP Conf. Ser. **32** (San Francisco: Astronomical Society of the Pacific, 1992).

Stellar Surface Structure, K.G. Strassmeier and J.L. Linsky eds., IAU Symposium No. 179 (Kluwer Academic: Dordrecht, 1996).

K.J. Johnston, “Reference frames in astronomy,” Ann. Rev. Astron. Astrophys. **37**, 97–125 (1999).

Radio Astronomy

A.R. Thompson, J.M. Moran, and G.W. Swenson, Jr., *Interferometry and Synthesis in Radio Astronomy* (John Wiley and Sons: New York, 1986).

P.F. Goldsmith ed., *Instrumentation and Techniques for Radio Astronomy*, an IEEE volume of collected reprints (IEEE Press: New York, 1988).

G. B. Taylor, C. L. Carilli, and R. A. Perley, eds., *Synthesis Imaging in Radio Astronomy II*, ASP Conf. Ser. **180** (Brigham Young Univ. Press: Provo Utah, 1999)

E.B. Fomalont and M.C.H. Wright, “Interferometry and aperture synthesis,” in *Galactic and Extra-Galactic Radio Astronomy* (1st edition), G.L. Verschuur and K.I. Kellermann, eds., (Springer-Verlag: New York, 1974), pp. 256–290.

J.L. Yen, “Image reconstruction in synthesis radio telescope arrays” in *Array Signal Processing*, S. Haykin ed., (Prentice-Hall: Englewood Cliffs, NJ, 1985), pp. 293–350.

Resources on the Web

<http://huey.jpl.nasa.gov/olbin/>

Optical Long-Baseline Interferometry Newsletter, P.R. Lawson ed., (Jet Propulsion Laboratory, Pasadena, California).

B.2 Long Baseline Stellar Interferometers

In this section are listed references for the interferometers that have been mentioned in these course notes. In each case the first reference is a paper that describes the engineering of the interferometer and the other references are papers that describe astrophysical results.

Mark III Interferometer

<http://www.mtwilson.edu/MWO/Tour/NRL/>

M. Shao, M.M. Colavita, B.E. Hines, D.H. Staelin, D.J. Hutter, K.J. Johnston, D. Mozurkewich, R.S. Simon, J.L. Hershey, J.A. Hughes, and G.H. Kaplan, “The Mark III stellar interferometer,” *Astron. Astrophys.* **193**, 357–371 (1988).

C.A. Hummel, D. Mozurkewich, N.M. Elias, A. Quirrenbach, D.F. Buscher, J.T. Armstrong, K.J. Johnston, R.S. Simon, and D.J. Hutter, “Four years of astrometric measurements with the Mark III optical interferometer,” *Astron. J.* **108**, 326–336 (1994).

A. Quirrenbach, D. Mozurkewich, D.F. Buscher, C.A. Hummel, and J.T. Armstrong, “Angular diameter and limb darkening of Arcturus,” *Astron. Astrophys.* **312**, 160–166 (1996).

Cambridge Optical Aperture Synthesis Telescope (COAST)

<http://www.mrao.cam.ac.uk/telescopes/coast/>

J.E. Baldwin, R.C. Boysen, G.C. Cox, C.A. Haniff, J. Rogers, P.J. Warner, D.M.A. Wilson, and C.D. Mackay, “Design and performance of COAST,” in *Amplitude and Intensity Spatial Interferometry II*, J.B. Breckinridge, ed., Proc. SPIE **2200**, 118–128 (1994).

J.E. Baldwin, M.G. Beckett, R.C. Boysen, D. Burns, D.F. Buscher, G.C. Cox, C.A. Haniff, C.D. Mackay, N.S. Nightingale, J. Rogers, P.A.G. Scheuer, T.R. Scott, P.G. Tuthill, P.J. Warner, D.M.A. Wilson, and R.W. Wilson. “The first images from an optical aperture synthesis array: mapping of Capella with COAST at two epochs,” *Astron. Astrophys.* **306**, L13–L16 (1996).

D. Burns, J.E. Baldwin, R.C. Boysen, C.A. Haniff, P.R. Lawson, C.D. Mackay, J. Rogers, T.R. Scott, D. Saint Jacques, P.J. Warner, D.M.A. Wilson, J.S. Young, “Large amplitude periodic variations in the angular diameter of R Leonis,” *Mon. Not. R. Astron. Soc.* **297**, 462–466 (1998).

Grand Interféromètre à 2 Télescopes (GI2T)

<http://wwwrc.obs-azur.fr/fresnel/gi2t/gi2t.htm>

D. Mourard, I. Tallon-Bosc, A. Blazit, D. Bonneau, G. Merlin, F. Morand, F. Vakili, and A. Labeyrie, “The GI2T interferometer on Plateau de Calern,” *Astron. Astrophys.* **283**, 705–713 (1994).

Ph. Stee, F. Vakili, D. Bonneau, and D. Mourard, “On the inner envelope of the Be star γ Cas,” *Astron. Astrophys.* **332**, 268 (1998).

F. Vakili, D. Mourard, Ph. Stee, D. Bonneau, P. Berio, O. Chesneau, N. Thureau, F. Morand, A. Labeyrie and I. Tallon-Bosc, “Evidence for one-armed oscillations in the equatorial disk of ζ Tau,” *Astron. Astrophys.* **335**, 261–265 (1998).

Infrared/Optical Telescope Array (IOTA)

<http://cfa-www.harvard.edu/cfa/oir/IOTA/>

W.A. Traub, “Recent results from the IOTA Interferometer,” in *Astronomical Interferometry*, R.D. Reasenberg ed., Proc. SPIE **3350**, 848–855 (1998).

H.M. Dyck, J.A. Benson, G.T. van Belle, and S.T. Ridgway. “Radii and effective temperatures for K and M giants and supergiants,” *Astron. J.* **111**, 1705–1712 (1996).

R. Millan-Gabet, F. P. Schloerb, W. A. Traub, F. Malbet, J. P. Berger and J. D. Bregman. “Sub-AU Structure of the Near Infrared Emission from AB Aurigae,” *Astrophys. J.* **513**, L131–L134 (1999).

FLUOR

<http://despa.obspm.fr/fluor/en/>

V. Coudé du Foresto, G. Perrin, C. Ruilier, B. Mennesson, W. Traub, and M. Lacasse, “FLUOR fibered instrument at the IOTA interferometer,” in *Astronomical Interferometry*, R.D. Reasenberg ed., Proc. SPIE **3350**, 856–863 (1998).

G. Perrin, V. Coudé du Foresto, S.T. Ridgway, J.-M. Mariotti, W.A. Traub, N.P. Carlton, and M.G. Lacasse, “Extension of the effective temperature scale of giants to types later than M6,” *Astron. Astrophys.* **331**, 619–626 (1998).

G. Perrin, V. Coudé du Foresto, S.T. Ridgway, B. Mennesson, C. Ruilier, J.-M. Mariotti, W.A. Traub, and M.G. Lacasse, “Interferometric observations of R Leonis in the K-band: First direct detection of the photospheric pulsation and study of the atmospheric intensity distribution,” *Astron. Astrophys.* **345**, 221–232 (1999).

Infrared Spatial Interferometer (ISI)

<http://isi.ssl.berkeley.edu/>

D.D.S. Hale, M. Bester, W.C. Danchi, W. Fitelson, S. Hoss, E.A. Lipman, J.D. Monnier, P.G. Tuthill, and C.H. Townes, “The Berkeley Infrared Spatial Interferometer: a heterodyne stellar interferometer for the mid-infrared,” *Astrophys. J.* **537**, 998–1012 (2000).

W.C. Danchi, M. Bester, C.G. Degiacomi, L.J. Greenhill, and C.H. Townes. “Characteristics of dust shells around 13 late-type stars,” *Astron. J.* **107**, 1469–1513 (1994).

M. Bester, W.C. Danchi, D. Hale, C.H. Townes, C.G. Degiacomi, D. Mekarnia, and T.R. Geballe, “Measurement at 11 micron wavelengths of the diameters of α Orionis and α Scorpii, and changes in effective temperature of α Orionis and very recent dust emission,” *Astrophys. J.* **463**, 336–343 (1996).

Navy Prototype Optical Interferometer (NPOI)

http://aries.usno.navy.mil/ad_home/npoi/npoi.html

J.T. Armstrong, D. Mozurkewich, L.J. Rickard, D.J. Hutter, J.A. Benson, P.F. Bowers, N.M. Elias II, C.A. Hummel, K.J. Johnston, D.F. Buscher, J.H. Clark III, L. Ha, L.-C. Ling, N.M. White, and R.S. Simon, “The Navy Prototype Optical Interferometer,” *Astrophys. J.* **496**, 550–571 (1998).

A.R. Hajian, J.T. Armstrong, C.A. Hummel, J.A. Benson, D. Mozurkewich, T.A. Pauls, D.J. Hutter, N.M. Elias II, K.J. Johnston, L.J. Rickard, and N.M. White, “Direct confirmation of stellar limb darkening with the Navy Prototype Optical Interferometer,” *Astrophys. J.* **496**, 484–489 (1998).

C.A. Hummel, D. Mozurkewich, J.T. Armstrong, A.R. Hajian, N.M. Elias II, D.J. Hutter, “NPOI observations of the double stars Mizar A and Matar,” *Astron. J.* **116**, 2536–2548 (1998).

Palomar Testbed Interferometer (PTI)

<http://huey.jpl.nasa.gov/palomar/>

M.M. Colavita, J.K. Wallace, B.E. Hines, Y. Gursel, F. Malbet, D.L. Palmer, X.P. Pan, M. Shao, J.W. Yu, A.F. Boden, P.J. Dumont, J. Gubler, C.D. Koresko, S.R. Kulkarni, B.F. Lane, D.W. Mobley, G.T. van Belle, “The Palomar Testbed Interferometer,” *Astrophys. J.* **510**, 505–521 (1999).

A.F. Boden, G.T. van Belle, M.M. Colavita, P.J. Dumont, J. Gubler, C.D. Koresko, S.R. Kulkarni, B.F. Lane, D.W. Mobley, M. Shao, J.K. Wallace, “An interferometric search for bright companions to 51 Pegasi,” *Astrophys. J. Lett.* **504**, L39–L42 (1998).

G.T. van Belle, B.F. Lane, R.R. Thompson, A.F. Boden, M.M. Colavita, P.J. Dumont, D.W. Mobley, D. Palmer, M. Shao, G.X. Vasisht, J.K. Wallace, M.J. Creech-Eakman, C.D. Koresko, S.R. Kulkarni, X.P. Pan, and J. Gubler. “Radii and Effective Temperatures for G, K and M Giants and Supergiants,” *Astron. J.* **117**, 521–533 (1999)

Sydney University Stellar Interferometer (SUSI)

<http://www.physics.usyd.edu.au/astron/astron.html>

J. Davis, W.J. Tango, A.J. Booth, T.A. ten Brummelaar, R.A. Minard, S.M. Owens, “The Sydney University Stellar Interferometer I: The Instrument,” *Mon. Not. R. Astron. Soc.* **303**, 773–782 (1999).

J. Davis, W.J. Tango, A.J. Booth, E. Thorvaldson, and J. Giovannis, “The Sydney University Stellar Interferometer II: Commissioning observations and results,” *Mon. Not. R. Astron. Soc.* **303**, 783–791 (1999).

J. Davis, A.J. Booth, W.J. Tango, "Observations of β Centauri with the Sydney University Stellar Interferometer," *Mon. Not. R. Astron. Soc.*, in press (2000).

CHARA Array

http://www.chara.gsu.edu/CHARA/Array/chara_array.html

H.A. McAlister, W.G. Bagnuolo, T. ten Brummelaar, W.I. Hartkopf, M.A. Shure, L. Sturmann, and N.H. Turner. "Progress on the CHARA Array," in *Astronomical Interferometry*, R.D. Reasenberg ed., Proc. SPIE **3350**, 947–950 (1998).

Keck Interferometer

<http://huey.jpl.nasa.gov/keck/>

M.M. Colavita and P.L. Wizinowich, "The Keck Interferometer: progress report," in *Interferometry in Optical Astronomy*, P.J. Léna and A. Quirrenbach, eds., Proc. SPIE **4006**, 310–320 (2000).

Very Large Telescope Interferometer (VLTI)

<http://www.eso.org/projects/vlti/>

A. Glindemann, A. Abuter, F. Carbognani, F. Delplancke, F. Dérie, M. Ferrari, A. Gennai, P.B. Gitton, P. Kervella, B. Koehler, S. A. Lévêque, S. Menardi, A. Michel, F. Paresce, T.P. Duc, A. Richichi, M. Schöller, M. Tarenghi, A. Wallander, and R. Wilhelm, "VLT interferometer: a unique instrument for high-resolution astronomy," in *Interferometry in Optical Astronomy*, P.J. Léna and A. Quirrenbach, eds., Proc. SPIE **4006**, 2–12 (2000).

Space Interferometry Mission (SIM)

<http://sim.jpl.nasa.gov/>

SIM: Taking the Measure of the Universe, R. Danner and S. Unwin, eds., JPL 400-811 3/99 (Jet Propulsion Laboratory: Pasadena, California, 1999)

Terrestrial Planet Finder (TPF)

<http://tpf.jpl.nasa.gov/>

Terrestrial Planet Finder, C.A. Beichman, N.J. Woolf, and C.A. Lindensmith, eds., JPL Publication 99-3 (Jet Propulsion Laboratory: Pasadena, California, 1999)